

REMARKS/ARGUMENTS

Introduction:

Claim 1 has been amended to include features of dependent claim 3. Claim 3 has been canceled. Claim 12 has been amended as to dependency only. New claims 93-95 have been added. Claims 1-2, 4-21 and 83-95 are now pending in the application. Applicant respectfully requests reexamination and reconsideration of the application.

Same Rejections As Were Withdrawn By Panel

Applicant initially notes that most of the rejections in the Office Action are the same as the rejections that were held insufficient to support rejection of the claims as reported in the Notice of Panel Decision from Pre-Appeal Brief Review dated August 15, 2007. Applicant questions why the PTO has continued to assert the rejections that were found to be insufficient to support rejections.

Rejections Under 35 U.S.C. § 102

Rejections over Chen

Claims 1-9 and 14-18 were rejected under 35 U.S.C. § 102(b) as anticipated by Int'l Appl. Pub. WO 99/14404 to Chen et al. (hereinafter "Chen"). Applicant respectfully traverses the rejection, as the PTO has not shown that Chen teaches or suggests all of the elements of the claims. In particular, the PTO has not shown that Chen teaches or suggests the features of using two different materials in an interconnection element, wherein application of an external stimulus permanently changes the interconnection element from a first geometric shape to a second, different, geometric shape.

The PTO asserts that Chen teaches heat treatment which "organizes the material to the new desired form" (citing the Abstract). The PTO then cites the Heritage Dictionary 4th Ed. for the assertion that the use of "form" within Chen encompasses "a shape and structure of an object." Initially, Applicant notes that the claim refers to a "geometric shape," yet the dictionary definition relied on by the PTO does not refer to a *geometric* shape. The PTO has thus not shown that Chen's use of the word "form" necessarily includes within its meaning a *geometric* shape as recited in the claims.

Moreover, the PTO has not even shown that, when viewed as a whole, Chen teaches or suggests changing a "shape" of Chen's coated wire 212. Indeed, the PTO relies entirely on one word in Chen's Abstract (i.e., "form") while ignoring numerous teachings in the specification that refer to making internal molecular changes within the material of coated wire 212 to provide "improved material properties" (page 6, line 11), such as increased yield strength (page 6, line 16) and stability (page 6, line 23) or a coating with a crystalline material (page 6, line 27). In fact, reading Chen as a whole—that is, reading more than just a single word in the Abstract—it is clear that Chen's reference in the Abstract to changes in "form" refer to changes in the internal molecular structure of a material of a contact structure (e.g., Chen's coated wire 212) rather than changes in the geometric shape of the contact structure. In citing the Heritage Dictionary, the PTO improperly seeks to use extrinsic evidence—that is, evidence outside of the patent application—to read into Chen teachings the PTO has not otherwise shown are in Chen. Such use of extrinsic evidence is improper, as "extrinsic evidence may be used to explain **but not expand** the meaning of terms and phrases used in the reference relied upon as anticipatory of the claimed subject matter." MPEP § 2131.01(II) (emphasis added). Applicant respectfully submits that the PTO has improperly expanded the teachings of Chen by attempting to import features (changing a shape) from a source outside the patent (a dictionary).

Applicant notes that an inventor is allowed to be his or her own lexicographer and thus need not use in his specification a word precisely as the word is defined in a dictionary. Applicant asserts that Chen did not use the term "form," as found in Chen's Abstract, to mean a geometric shape. This is apparent from the fact that the PTO has failed to cite teachings in Chen's specification of changing the geometric shape of coated wire 212. Thus, the PTO has failed to show that Chen used the term "form" to include the geometric shape of coated wire 212 at least because the PTO has not pointed to a teaching, disclosure, or example in Chen in which the geometric shape of coated wire 212 is changed.

Accordingly, for at least the foregoing reasons, claim 1 and the remaining claims (at least because of their dependency directly or indirectly from claim 1) are allowable over Chen.

With respect to claims 4-6, it is noted that the PTO has not pointed to a teaching in Chen of changing the volume of Chen's coated wire 212. In fact, not even the dictionary definition relied on by the PTO defines "form" in such a way that a change in "form" necessarily results in a change in volume.

In rejecting claims 67-71, the PTO alleges that the specification of this application teaches that a change in the structure of a material necessarily results in a material change in volume of the material. Initially, Applicant notes that the specification is not prior art and cannot, therefore, be relied on or combined with the prior art of record to reject the claims. Moreover, the PTO misinterprets and misreads the specification, which on page 20 (lines 29-32) states that the "second element material 180 *includes a property* such that its volume can be transformed from a first volume to a different second volume" (emphasis added). Thus, the foregoing portion of the specification teaches that a property in material 180 allows for a transformation of the material from a first volume to a second volume in response to a stimulus. The portion of the specification relied on by the PTO (page 23, lines 5-10) merely states that the "transformation is believed to be a result of a reorientation of the crystalline structure that makes up the second element material." The foregoing does not teach that any or every conceivable change in the structure of a material necessarily results in a material change in volume. Nor does that foregoing teach that every change in the crystalline structure of any material necessarily results in a material change in volume of the material. Thus, the PTO cannot rely on the foregoing statements in the specification to interpret Chen's statement regarding changing the structure of coated wire 212 as necessarily resulting in a material change in volume of the coated wire 212.

With respect to claims 16 and 17, it is further noted that the PTO alleges that Chen discloses a material that changes shape to a predetermined shape, but fails to cite any particular teaching within Chen having the alleged disclosure. In fact, the PTO has not pointed to any teaching in Chen related to changing geometric shape or describing any predetermined shapes that a material can take in response to a stimulus.

With respect to claim 18, the PTO alleges that Chen discloses that the external stimulus reduces the magnitude of the stress of the material, but the citation is clearly incorrect, as Chen does not include a "col. 5" as cited by the PTO.

Rejections over Smith

Claim 1 was rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent 5,613,861 to Smith et al. (hereinafter "Smith"). Claim 1 has been amended to incorporate features of dependent claim 3, including that "transformation ... is permanent." As claim 3 was

not rejected over Smith, claim 1 should therefore now be allowable over Smith. The remaining claims, at least because of their dependency directly or indirectly from claim 1, are also allowable over Smith.

Rejections Under 35 U.S.C. § 103

Rejections over Smith in view of Chen

Claims 1-11, 14, 15, 18-21, 90 and 91 were rejected under 35 U.S.C. § 103(b) as obvious over Smith in view of Chen. Applicant respectfully traverses the rejection. Without admitting that combination of Smith and Chen is appropriate, Applicant asserts that the combination fails to teach or suggest all of the elements of the claimed invention.

Smith fails to teach or suggest the features of using two different materials in an interconnection element, wherein application of an external stimulus *permanently* changes the interconnection element from a first geometric shape to a second, different, geometric shape. Smith teaches only a *temporary* change in a spring contact when the spring contact is brought into contact with a contact pad (FIG. 6; col. 5, lines 43-57). Smith clearly discloses that the spring contact "will return to its undeformed state" when the force is released (col. 5, line 51-52). The PTO has not relied on Chen for teachings that would correct this deficiency in Smith.

Accordingly, for at least these reasons, claim 1 and the remaining claims (at least because of their dependency directly or indirectly from claim 1) are allowable over the combination of Smith and Chen.

With respect to claim 18, Smith does not disclose the feature wherein "the external stimulus reduces the inherent stress." The cited portion (col. 5, lines 19-21) of Smith makes no mention of *reducing* stress as claimed.

Rejections over Smith in view of Eldridge

Claims 12 and 13 were rejected under 35 U.S.C. § 103(b) as obvious over Chen in view of U.S. Patent 5,832,601 to Eldridge et al. (hereinafter "Eldridge"). Applicant respectfully traverses the rejection for the reasons provided above with respect to the rejections of claim 1, from which claims 12 and 13 depend. Without admitting that combination of Chen and Eldridge

is appropriate, Applicant asserts that the PTO has not cited to teachings in Eldridge that would correct the above noted deficiencies of Chen.

Rejections over Smith in view of Smith II

Claims 83-89 were rejected under 35 U.S.C. § 103(b) as obvious over Smith in view of U.S. Patent 5,979,892 to Smith (hereinafter "Smith II"). Applicant respectfully traverses the rejection for the reasons provided above with respect to the rejections of claim 1, from which claims 83-89 depend. Without admitting that combination of Smith and Smith II is appropriate, Applicant asserts that Smith II fails to correct the above noted deficiencies of Smith.

No Basis for Rejection of Claim 92 Was Provided

Claim 92 was listed as rejected on the summary page, but no rejection was provided in the Detailed Action. Clarification of the status of claim 92 is requested.

New Claims

New claims 93-95 have been added. No new matter has been added by these claims, as support for the claimed subject matter is provided by the originally filed specification. New claims 93-95 recite additional novel features neither taught nor suggested by the art of record. For example, claim 93 recites use of a "shape memory alloy," and claims 94 and 95 recite features of the first geometric shape and the second geometric shape. Applicant respectfully asserts that the prior art of record, whether taken individually or in combination, does not teach or render obvious the features recited in new claims 93-95.

Conclusion:

In view of the foregoing, Applicant submits that all of the claims are allowable and the application is in condition for allowance. If at any time the Examiner believes that a discussion with Applicant's attorney would be helpful, the Examiner is invited to contact the undersigned or Ken Burraston at (801) 426-2100.

As two dependent claims were added and one dependent claim was cancelled, additional claim fees are now due. These fees are being paid electronically concurrently with the filing of the paper.

Respectfully submitted,

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